BY ORDER OF THE COMMANDER
NINETEENTH AIR FORCE

19TH AIR FORCE INSTRUCTION 11-204
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Flying Operations

★*RUNWAY SUPERVISORY UNIT (RSU) OPERATIONS*

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 11-2, *Flight Rules and Procedures,* and prescribes requirements for the runway supervisory unit (RSU) control of air traffic by AETC training wings, flying training wings/groups, and flying squadrons. It complements related instructions in Federal Aviation Administration (FAA) regulations and handbooks and applicable Air Force directives. Submit suggestions or recommendations to improve RSU management or this instruction to 19 AF/DOU, 73 Main Circle, Suite 1, Randolph AFB TX 78150-4549. 19th Air Force, Operations and Readiness (19 AF/DO), maintains waiver authority. See Attachment 1 for a glossary of references and supporting information.

This publication does not apply to Air National Guard and Air Force Reserve Command units. Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, volume 4).

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

Chapter 1

**RUNWAY SUPERVISORY UNIT (RSU) AND RUNWAY CONTROL
STRUCTURE (RCS) OPERATIONS**

1.1. Operations Group Commander (OG/CC) Responsibilities. The OG/CC is responsible for every aspect of the flying environment. The OG/CC is responsible for oversight of the RSU program and ensures each RSU position is manned by an adequately trained and certified individual (for the 479 FTG, all references to the "OG/CC" in this instruction apply to the 479 FTG/CC).

1.1.1. OG/CCs will appoint, in writing, at the OGV level, an RSU program manager. The RSU program manager will maintain overall control of the RSU program and will be the OG/CC's point of contact on all RSU issues. The RSU program manager does not have to be an active member of the RSU program, although it is highly encouraged that the RSU program manager be a current and qualified controller, observer, or monitor, or have previous RSU experience. The RSU program manager will attend all quarterly RSU meetings and will visit each aircraft's RSU at least once per quarter.

1.2. Terms. RSU and RCS are used synonymously in this instruction.

1.3. Requirements. Guidance cannot cover all situations, and supervisors are expected to use sound judgment in determining the requirement for an RSU. The intent is to provide RSU supervision for the majority of local undergraduate flying training (UFT) and pilot instructor training (PIT) flying operations, in particular, multiple landings during periods of student training and all solo student operations. See Table 1.1 for a list of RSU requirements.

Table 1.1. RSU Requirements.

L I N E	A	B	C	D
	Type of Operations	Class A Required	Class B Required	No RSU Required
1	T-6, T-37, and T-38 student flying at home or auxiliary field in an RSU controlled pattern	X		
2	Solo student initial takeoffs/full stop landings at the home field (note 1)		X	
3	Home field dual student sorties under tower control, dual cross-country or out and back departures/returns, and T-1 sorties			X
4	Randolph operations (note 2)			X
5	T-1, T-6, T-37, and T-38 student sorties, dual or solo, at other than home or auxiliary fields			X
6	Nonstudent sorties			X
7	One full stop landing and one takeoff by aircraft used to transport RSU crews to and from the auxiliary field (note 3)			X

NOTES:

1. T-1 team out and backs do not require an RSU when departing or returning one to a full stop at the home field. Solo student touch-and-go landings require a Class A RSU. (SQ/CC will ensure downgrading from a Class A to a Class B RSU does not impact student training.)
2. Randolph auxiliary airfield operations require a Class A RSU.
3. Opening RSU crews will check the condition of the auxiliary field's runway by conducting a low approach before landing.

1.3.1. RSU patterns exist to ensure a safe and efficient pilot training environment. RSU personnel will utilize preventative control measures while controlling aircraft under their jurisdiction. Under preventative control, routine approval of pilot actions is eliminated; RSU personnel will intervene when unsafe situations or traffic conflicts develop. When established within Class C airspace, conduct RSU patterns within practice areas as defined in local operating agreements; participating local aircraft in the practice areas are exempt from Class C services and will instead operate according to local guidelines.

1.4. Staffing. Staff RSUs according to the function they perform as shown in Table 1.2.

Table 1.2. T-6, T-37, and T-38 RSU Staffing.

ITEM	A Condition	B Homefield	C Auxiliary
Class A			
1	Day	Controller, observer, spotter, and recorder	Controller and observer
2	Night	Controller, observer, spotter, and recorder (note 1)	NA
Class B			
3	Day/Night	Monitor (as a minimum)	Monitor

NOTES:
1. The night spotter requirement only applies to T-37 RSUs.

1.5. Flying Training Wing Responsibilities:

1.5.1. Locate RSUs opposite the touchdown zone and, when possible, on the side of the runway opposite the direction of break. Clearance to the edge of the active runway must conform to the clearance criteria in AFMAN 32-1123(I), *Airfield and Heliport Planning and Design.*

1.5.2. Limit RSU occupancy as follows:

1.5.2.1. The large permanent RCS is authorized a maximum of 10 individuals inside at one time.

1.5.2.2. The small mobile RSU is authorized a maximum of six individuals inside at one time.

1.5.3. Keep a permanent visitor's log to record RSU visitations.

1.5.4. Ensure the controller is seated at the end of the unit closest to the runway approach end and the observer is seated at the opposite end.

1.5.5. For class A RSU operations:

1.5.5.1. Provide RSU control to AETC aircraft only. This does not prevent an RSU controller from offering advice to other aircraft to prevent an accident. Relay advisories through the tower if time and conditions permit.

1.5.5.2. Establish procedures defining transfer of runway and air traffic control responsibility from one facility to another. Overlap of control is prohibited. Granting the tower access to an RSU-controlled runway for a transient takeoff or landing does not require transfer of runway control.

1.5.5.3. Establish procedures to ensure RSU-controlled traffic is separated from arriving and departing transient aircraft. AETC like-type aircraft are not considered transient. In addition, the RSU controller will not:

1.5.5.3.1. Clear an aircraft for a low approach directly over, or less than 500 feet above ground level (AGL) with respect to a transient aircraft departing, landing, or taxiing on the runway.

1.5.5.3.2. Authorize a landing aircraft to cross the threshold until a preceding transient aircraft clears the runway.

1.5.5.4. Establish procedures to relinquish RSU control of a runway to the tower when weather conditions prevent visual flight rules (VFR) traffic patterns.

1.5.6. Establish procedures to use if RSU or control tower communications fail.

1.5.7. Maintain a separate traffic count for each class A RSU controlled runway. Count one movement for each takeoff or landing. A touch-and-go or low approach would be two counts. Aircraft, while in formation, are counted as one aircraft. Each RSU training officer (RSUTO) will ensure an accurate quarterly traffic count for each RSU operation is furnished to the wing airspace office no later than 5 work days after the end of each quarter.

1.5.8. Use 19 AF Form 355, **Runway Control Structure (RCS)/Runway Supervisory Unit (RSU) Log,** to record flight following information and to document meaningful comments. Controllers will ensure 19 AF Form 355 is filled out completely, to include documentation of upgrade tours and time in and out of the facility. Also, reflect on the form if the RSU is closed for an extended period of time.

1.5.9. Use 19 AF Form 360, **Runway Control Structure (RCS)/Runway Supervisory Unit (RSU) Discrepancy Log,** to document all RSU discrepancies. RSU crews will notify the appropriate agency and obtain a job control number and estimated job completion time.

1.5.9.1. For onsite repairs, the individual providing the repair will complete the appropriate portions of 19 AF Form 360 showing actions taken and will also notify the RSU facility officer.

1.5.9.2. Except for repeat intermittent operations, individuals correcting and ops-checking discrepancies at remote locations (telephone switchboard, etc.) need only notify the RSU facility officer of the corrective action taken.

1.5.9.3. If no cause can be determined, conclude the corrective action block with "Cause not found." Repeat intermittent operation write-ups with no determined cause will require a thorough inspection of all affected system components.

1.5.9.4. Maintenance personnel will document removal and replacement of RSU communications equipment on 19 AF Form 360, including serial numbers, if applicable.

1.5.9.5. RSU crews will not complete corrective action portions of 19 AF Form 360. *EXCEPTION:* This restriction does not apply to the RSU facility officer.

1.6. T-38 Supervised Solo or T-1 Team Out and Backs. Prior to any students arriving, landing, or departing an out base, an assistant flight commander or above will be in place in the control tower. He or she will have the proper publications, act as the on-scene mission commander, and advise the air traffic controller in emergency situations. Personnel performing this duty must not interfere with control tower operations. *EXCEPTION:* This is not required at AETC UFT or PIT bases; however, the on-scene commander will relay the call signs of all aircraft in the deployment to the current supervisor of flying (SOF).

1.7. Supervisory Visits. OG/CCs and their deputies will visit an RSU (any type aircraft) at least once per quarter and ensure squadron commanders, operations officers, assistant operation officers, and flight commanders visit their respective RSUs at least once every 60 days. Annotate all visits in the visitor's log. Visits must be of sufficient length to demonstrate full command support and close supervision of the RSU program. Supervisors making visits should monitor RSU crew performance, compliance with traffic pattern procedures, and radio discipline. Also, ensure the RSU is being properly maintained and operated. Use 19 AF Form 1163, **RCS/RSU Supervisor's Critique,** to record observations. After circulating 19 AF Forms 1163 to the appropriate squadron commander, operations officer, and flight commanders, retain the critiques on active RSU personnel. *EXCEPTION:* The 12 OG/CC or designated representative will visit an RSU at least once per quarter. The 559/560 FTS/CCs (or DOs or ADOs) will visit an RSU at least once every 60 days. 559/560 FTS flight commanders are not required to make RSU visits.

1.8. Equipment and Maintenance. The OG/CC will designate an RSU facility officer, and may, at the discretion of the OG/CC, also designate an alternate RSU facility officer, who will:

1.8.1. Ensure the following equipment is in operational condition at each RSU site, as applicable:

1.8.1.1. Radios. Radios must provide transmit and receive capability on local operating and Guard frequencies. With OG/CC approval, an RSU may open or remain open with only one operational radio and guard channel, providing both have transmit and receive capability. This should be considered a temporary configuration to allow operation while the inoperative radio is expeditiously repaired. Each RSU is equipped with an RSU upgrade position that will override transmissions from the trainee's position. RSU frequency recording is required (except at auxiliary fields). Priority is established in AFI 13-203, *Air Traffic Control.*

1.8.1.2. Telephone. Each unit should have a minimum of one class C telephone line and two telephones.

1.8.1.3. Hotlines. Ensure hotlines are available to ensure direct contact with the following:

1.8.1.3.1. Tower (auxiliary fields are exempt).

1.8.1.3.2. Ground control approach (GCA) or terminal radar facility at RSUs serving runways where precision approach radar or airport surveillance radar (ASR) approaches are flown (except emergency-only ASRs).

1.8.1.3.3. SOF. *NOTE:* Tower and SOF may share the same line as long as they are collocated.

1.8.1.3.4. Crash or rescue at auxiliary fields.

1.8.1.3.5. Other RSUs serving parallel runways as necessary.

1.8.1.3.6. Other agencies as required.*NOTE:* A hotline is the preferred method from auxiliary field RSUs. However, "executive override" on an auxiliary field RSU class C telephone may be used when hotline installation is not available.

1.8.1.4. Flare Pistols. At least two flare pistols and a minimum of six flare cartridges must be in place and operable at the start of flying.

1.8.1.5. Light Gun.

1.8.1.6. Binoculars. Two sets of binoculars at home field and one set at the auxiliary field.

1.8.1.7. Wind-Measuring Equipment. At the home field, temporary operation without this equipment is acceptable when alternate procedures (such as, tower) are established to obtain accurate wind information. At the auxiliary field, temporary operation without this equipment is acceptable with OG/CC approval after close scrutiny of current and forecasted weather and winds. In both cases, give the highest priority to fixing the problem as soon as possible.

1.8.1.7.1. RSU and SOF Use of FMQ-13 Wind-Measuring Equipment. To determine the maximum gust factor, RSU and SOF personnel will divide the gust spread in half and add it to the wind speed.

1.8.1.8. Evacuation Alarms. (Randolph auxiliary airfields are exempt.) If required by AFI 13-203, a radar or navigational aid (NAVAID) emergency warning and evacuation alarm system-actuating capability.

1.8.1.9. Air-conditioner and Heater. Air-conditioner and heater capable of maintaining temperatures within the RSU between $70^{o}F$ and $80^{o}F$.

1.8.1.10. Auxiliary Power Unit (APU). An APU capable of supporting essential RSU equipment (including air-conditioner) during commercial power outages (if deemed necessary by the OG/CC). (Randolph auxiliary airfields are exempt) Equip all RSUs to accept APU hookup. At RSUs where APUs are in place, enable the auto-start feature. APUs are not required to be prepositioned at RSUs provided the OG/CC and base civil engineer jointly concur that predicted reliability of commercial power is sufficient to satisfy RSU operational requirements.

1.8.2. Conduct a monthly inspection of the condition and operation of the RSU and component equipment using a checklist incorporating the items in Attachment 2.

1.8.3. Use 19 AF Form 361, **Runway Control Structure (RCS)/Runway Supervisory Unit (RSU) Discrepancy Tracking Log,** to track open discrepancies. Inform communications maintenance of any discrepancies that could cause undetected collateral damage to communications equipment, such as power failure or water leak. Retain 19 AF Forms 361 until all items are closed.

1.8.4. Inform the OG/CC of uncleared RSU discrepancies at the beginning of each flying week.

1.8.5. Maintain a file of completed 19 AF Forms 360 for each RSU. Retain the file for a minimum of 1 year from the date corrective action is completed. Forms should be retained longer than 1 year if required to adequately track trend items.

1.8.6. Maintain a permanent record for each RSU, using AFTO Form 95, **Significant Historical Data.** This record contains all major modifications or repairs to the structure and component equipment. No modifications will be made to standard RSU design and equipment without the approval of 19 AF/DO. HQ AETC/SCML reviews requests for modification of communications equipment.

1.8.7. The RSU training and standardization officers (RSUTSO) will ensure that current copies of the following pertinent documents are available for use in active RSUs:

1.8.7.1. Flying directives and operating manuals.

1.8.7.2. Aircraft flight manuals.

1.8.7.3. Quick-reaction checklists.

1.8.7.4. Local area map with prominent landmarks and emergency fields marked.

1.9. Auxiliary Power Unit (APU) Qualification and Certification. RSUTSOs will establish a program with local power production personnel to ensure qualification and certification of RSU controllers and observers in APU operation. (Randolph and bases not using APUs are exempt.) Include and document APU procedures on performance evaluations, and ensure RSU personnel annually review APU procedures.

1.10. Flare and Flare Pistol Handling and Storage Procedures:

1.10.1. Flares and flare pistols are classified as munitions and firearms. Personnel handling flares and flare pistols must apply the special security and storage procedures of AFI 31-101, *The Air Force Physical Security Program,* and AFMAN 91-201, *Explosive Safety Standards.*

1.10.2. RSU personnel who handle flares and flare pistols must complete initial and recurring training according to AFMAN 91-201. Personnel must also comply with the following procedures:

1.10.2.1. Load flare pistols only after installed in flare port and unload them before removal from flare port.

1.10.2.2. If a dry firing check is required, install the flare pistol in the flare port before firing.

1.10.2.3. Leave breeches open when flare pistols are not secured in flare port.

1.10.2.4. If a flare fails to fire, make two more attempts to fire. If the flare still fails to fire, use the other pistol. Wait at least 30 seconds after a misfire, then open the breech and unload the pistol. Examine the flare for primer indentation by the firing pin.

1.10.2.4.1. If indentation exists, reload the pistol with a new flare and place the misfired flare into a container marked "Misfired Flares." Place the container outside the RSU.

1.10.2.4.2. If no indentation exists, remove the pistol from service and have it checked by qualified personnel.

1.10.2.4.3. Bases will establish local procedures for disposal of the misfired flares as well as inspection and maintenance of the pistols and their mounts.

1.10.3. Each controller trainee may practice firing one flare during training.

1.11. Restrictions:

1.11.1. RSU crewmembers who are medically excused from flying duty or grounded may not perform RSU duty without written clearance from the flight surgeon.

1.11.2. RSU crewmembers are not permitted to perform RSU duty if it will extend their crew duty period beyond 12 hours.

1.12. Controllers. (Required for class A RSU.) Select the number of controllers (including instructor controllers) necessary to satisfy mission requirements. Squadron commanders will attempt to ensure controllers are evenly distributed throughout the squadron. Each flight should normally have at least one assigned controller.

1.12.1. Qualifications:

1.12.1.1. Select RSU controllers from the most highly qualified and current instructor pilots (IP) with at least 6 months of IP experience in current aircraft and a minimum of 90 days of experience as an RSU observer or monitor. (Randolph is exempt from the observer/monitor requirement. Additionally, Randolph IPs are exempt from the requirement for 6 months of IP experience if the IP has previous AETC RSU controller experience or at least 6 months of current experience as an RSU observer). A candidate must have approval of the squadron commander to be selected for controller training. After completion of training or initial evaluation, but before performing unsupervised controller duties, the OG/CC must sign the 19 AF Form 309, **RCS/RSU Crewmember Evaluation and Qualification Certificate.**

1.12.1.2. If an individual is grounded for an extended period (for example, duty not including flying [DNIF]), the OG/CC may waive flying currency requirements for the purpose of RSU duties. However, an individual will not perform RSU duties with any expired flight evaluation. The individual will attend RSU meetings, squadron/aircrew standardization/evaluation visit (ASEV) testing, update flight crew information files (FCIF), and accomplish all other ground training necessary for flying duties. This applies to controller, monitor, and observer positions.

1.12.1.3. The squadron commander will designate, in writing, RSU controllers who are qualified to perform upgrade duties. These RSU controllers will be designated as instructor controllers.

1.12.2. Duties. The RSU controller is responsible for the safe and efficient control of all aircraft under the RSU's jurisdiction, including air discipline, pattern conformity, and compliance with established procedures. The controller must take positive action to prevent potentially unsafe situations that could result from tight downwinds, slow finals, etc. Most important is the controller's responsibility for solo students. As a minimum, this responsibility includes the requirement for the controller or monitor to be aware of which solos in the pattern are in the Commander's Awareness Program (CAP). The controller is the acting supervisor over the RSU crew and is responsible for the crew's performance to assist in controlling or monitoring traffic. RSU controllers must also:

1.12.2.1. Brief the observer, spotter, and recorder on their duties before each tour.

1.12.2.2. Apply preventive traffic control procedures. Standard RSU radio phraseology is in Attachment 3.

1.12.2.3. Advise SOF if weather observed from the RSU is not compatible with the flying status.

1.12.2.4. Take immediate action, in coordination with the SOF, when unforecasted weather is observed by RSU personnel or reported by an aircrew.

1.12.2.5. Announce landing direction, wake turbulence advisories, and landing configuration as appropriate, to facilitate safe and efficient pattern operations. Announce wind conditions to aircrews upon initial entry into the pattern.

1.12.2.6. Transmit advisories on the location and flight path of any large influx of birds in the vicinity of the airfield, activities of other aircraft which may affect the traffic pattern, or any other conditions which may affect safety of operations.

1.12.2.7. Ensure aircraft-arresting barriers are in proper position before clearing aircraft for takeoff or landing.

1.12.2.8. Ensure each aircraft is visually checked for proper configuration before takeoff or landing.

1.12.2.9. Report deviations from established procedures.

1.12.2.10. Initiate a preliminary communications search when a single-ship local student solo or team sortie has been airborne for 1 hour (1+30 for T-1A). Increase this time to 1+20 for other T-38 sorties, 1+25 for other T-37 sorties, 1+45 for other T-6 sorties, and 3+10 for other T-1A sorties. Notify the SOF if the preliminary communications search is unsuccessful.

1.12.2.11. Exercise sound judgment when emergency situations arise and, time permitting, coordinate actions with the SOF and tower. When an emergency aircraft in the VFR pattern requires airborne assistance, designate a dual aircraft with a formation-qualified IP aboard to fly as chase.

1.12.2.12. Review emergency procedures with emergency aircraft as necessary.

1.12.2.13. Notify base operations if an aircraft disturbs the down barrier in the approach end overrun.

1.12.2.14. Activate the emergency alarm system as required by AFI 13-203 unless this function is performed by the tower. (Randolph auxiliary airfields are exempt.)

1.12.2.15. Not permit other duties to distract attention from primary controller responsibilities. This does not prevent calling significant comments to the recorder. *NOTE:* Controllers may perform monitor, instructor monitor, observer or instructor observer duties.

1.13. Monitors. (T-1s are exempt.) Select the minimum number of monitors (including upgrade monitors) necessary to satisfy mission requirements.

1.13.1. Qualifications:

1.13.1.1. IP must be current and qualified in the aircraft being controlled with a minimum of 3 months of experience as an instructor.

1.13.1.2. The squadron commander will designate, in writing, monitors who are qualified to perform upgrade duties. These monitors will be designated as instructor monitors.

1.13.2. Duties. Duties include the requirements in paragraphs 1.12.2.8 through 1.12.2.13. In addition, duties include transmitting proper instructions to prevent potentially hazardous situations and using 19 AF Form 355 to record takeoff and landing times and to account for each aircraft.

1.13.2.1. Monitors who are not qualified as observers will not perform observer or instructor observer duties.

1.13.2.2. Monitors qualified in one type of aircraft may monitor initial takeoffs and full-stop landings performed by another type aircraft or touch-and-go landings by another type of dual aircraft.

1.14. Observers. (Required for class A RSU.) Select the number of observers (including instructor observers) necessary to satisfy mission requirements.

1.14.1. Qualifications:

1.14.1.1. UFT. IP must be current and qualified in the aircraft being controlled with a minimum of 3 months of experience as an instructor. *EXCEPTION:* Sheppard instructors must have a minimum of 1 month of experience as an instructor during their current tour.

1.14.1.2. Randolph PIT. Must be a rated pilot current and qualified in the aircraft being observed. *NOTE:* The squadron commander will designate, in writing, observers who are qualified to perform upgrade duties. These observers will be designated as instructor observers.

1.14.2. Duties:

1.14.2.1. Assist the controller as necessary.

1.14.2.2. Observe landing rolls; that part of the traffic pattern from touchdown zone through the first turn out of traffic, pitchouts, straight through initials, and closed patterns. Give special attention to the departure end of runway and turns to crosswind where proper pattern spacing is obtained. If necessary to prioritize these duties, focus attention on airborne aircraft rather than aircraft on the ground.

1.14.2.3. Inform the controller of any observed traffic pattern conflict. If the observer detects a dangerous situation and time is insufficient to consult with the controller, transmit appropriate instructions to correct the situation.

1.14.2.4. Inform the controller of deviations from established procedures.

1.15. Recorders:

1.15.1. Qualifications. Must be an IP, student undergoing training or awaiting UFT, or a recent UFT graduate.

1.15.2. Duties:

1.15.2.1. Assist the controller as necessary.

1.15.2.2. Use 19 AF Form 355 to record takeoff and landing times, appropriate comments, and to account for aircraft.

1.15.2.3. Inform the controller when aircraft exceed the time limits of paragraph 1.12.2.10.

1.16. Spotters:

1.16.1. Qualifications. Must be an IP, post-solo UFT student undergoing training in the aircraft being controlled, or a recent UFT graduate.

1.16.2. Duties:

1.16.2.1. Check aircraft for proper configuration before takeoff and landing. Immediately notify the controller of irregularities.

1.16.2.2. Monitor aircraft in final turn and inform the controller of deviations (overshoots, higher or lower than normal final turns, configuration inconsistencies, etc.).

1.17. Standardization and Evaluation:

1.17.1. Squadron commanders will nominate and the OG/CC will appoint, in writing, a RSUTSO and RSUTO for each aircraft. The RSUTSO is responsible for maintaining the RSU program. RSUTSOs and RSUTOs must be instructor RSU controllers. *EXCEPTION:* Sheppard will have a T-37 and a T-38 RSUTSO, in OGV, appointed by the OG/CC. The 89th and 90th FTS/CCs will each nominate a RSUTO, appointed by the OG/CC. The 88th FTS/CC will nominate a T-37 and a T-38 RSUTO, appointed by the OG/CC. The 88th FTS RSUTOs will accomplish duties as assigned by the RSUTSOs.

1.17.2. The RSUTO is responsible for maintaining upgrade training folders and records on controller, monitor, and observer currency. Additionally, the RSUTO is responsible for ensuring supervisors and aircrews are informed of information derived from 19 AF Forms 355.

1.17.3. RSUTSOs will conduct a quarterly RSU standardization meeting. Include, among other subjects, a discussion of trend analyses and situation emergencies. Attendees will include all RSU-qualified IP crewmembers, the OG/CC or CD, squadron commander or director of operations, and at least one OGV representative. (*EXCEPTION:* Randolph PIT trainees are not required to attend.) Establish procedures to ensure RSU crewmembers who miss the meeting (because of leave, TDY, or DNIF to quarters) are briefed by the RSUTSO or RSUTO, or read and initial the meeting minutes prior to their next RSU tour.

1.17.4. RSUTSOs or RSUTOs conduct performance evaluations of each controller trainee and controller. An oral evaluation and written test on controller responsibilities and appropriate RSU directives are prerequisites for this annual evaluation. Establish the annual evaluation zone from the 12th through the 17th month from the initial or previous evaluation. The examinee must demonstrate the ability to perform controller duties and full knowledge of applicable directives, aircraft performance characteristics, operating limitations, and emergency procedures.

1.17.5. Each RSUTSO will conduct no-notice evaluations to ensure the quality of the controller force is maintained. The no-notice program has three parts: follow-up monitoring of individuals with previously identified deficiencies, evaluations associated with local unit evaluations, and a random sampling of the assigned RSU crew force, separate from local unit evaluations, to ensure quality and standardization. There is no quota system for the no-notice program. No-notice evaluations may count for the annual evaluation if all other annual evaluation requirements are completed within 30 calendar days of the no-notice evaluation. The new annual zone will be based on this evaluation.

1.17.6. Do not conduct controller, monitor, and observer training concurrently in the same RSU. *EXCEPTION:* In large, permanent RCSs where both the center monitor function and class A control function are performed in the same unit, center monitor upgrade and VFR pattern controller or observer upgrade training may be conducted at the same time.

1.18. Controller Qualification Program:

1.18.1. RSUTSOs establish and supervise an RSU controller-training program that includes the following:

1.18.1.1. Initial Upgrade Training. Conduct initial upgrade training according to Attachment 4. Additionally, an oral evaluation and written examination on controller responsibilities and appropriate RSU directives will be accomplished prior to the actual RSU evaluation.

1.18.1.2. Requalification Training. Controller candidates who have been qualified as controllers within the preceding 5 years must complete syllabus requirements under the supervision of an upgrade controller. Additionally, an oral evaluation, written test, and annual performance evaluation will be accomplished. Proficiency advancement is authorized at the discretion of the OG/CC. 559/560th FTS controller candidates who have been qualified as RSU controllers within the preceding year may be qualified after a minimum of three 2-hour on-the-job training (OJT) tours if all syllabus items are completed.

1.18.2. RSUTOs set up documentation for the program as follows:

1.18.2.1. Maintain a folder for each controller trainee that includes:

1.18.2.1.1. A memorandum signed by the squadron commander authorizing the trainee to perform controller duties.

1.18.2.1.2. A 19 AF Form 393, **RCS/RSU Controller Record of Training,** to record items accomplished during OJT tours. Add items and procedures peculiar to the local area on the bottom or back of the form or on a supplemental sheet.

1.18.2.1.3. An AETC Form 803A, **Student Activity Record,** to record comments on the trainee's progress after each OJT tour. Limit comments to unusual occurrences, significant strengths and weaknesses, and any applicable restrictions. An approved base or office form may be used in place of the AETC Form 803A.

1.18.2.2. Use 19 AF Form 309 to document controller performance evaluations. Rate performance as qualified or unqualified. Document outstanding performance with "outstanding performance."

1.18.3. RSUTOs, after initial checkout, keep a file on each controller. This file includes the squadron commander's authorization memorandum, all 19 AF Forms 309, and 393, and AETC Form 803A. Keep the file as long as the individual is an active controller. Send this file with the individual if the controller is transferred intracommand.

1.19. Monitor Qualification Program: (T-1s are exempt.)

1.19.1. RSUTSOs establish and supervise an RSU monitor training program that includes the following:

1.19.1.1. A review of applicable RSU publications.

1.19.1.2. One hour observing control of overhead training operations for each local aircraft in which the candidate is not qualified. Monitor candidates observing T-1 overhead training do so from the RSU.

1.19.1.3. A minimum of 2 hours controlling aircraft in which the candidate is qualified during overhead operations under supervision of an upgrade controller.

1.19.1.4. A minimum of two 2-hour OJT tours performing in a monitor capacity under supervision of an instructor monitor or a controller. Training will include normal monitor functions with emphasis on responsibilities during emergencies. Prior to accomplishing duties as a monitor at night, a minimum of one 2-hour night OJT tour will be accomplished under the supervision of a night-qualified controller or instructor monitor.

1.19.1.5. An oral evaluation and written examination on monitor responsibilities and appropriate RSU directives.

1.19.2. RSUTOs document training on 19 AF Form 309 and maintain it in the training folders of each monitor. Give the folders to the monitor upon removal from monitor duties or change of station.

1.20. Observer Qualification Program. RSUTSOs establish and supervise an RSU observer-training program that includes the following:

1.20.1. A review of applicable RSU publications.

1.20.2. A minimum of two 2-hour OJT observer tours (one tour minimum for personnel assigned to Randolph) under the supervision of an instructor observer or a controller. The controller will not be engaged in controlling traffic or upgrading another controller.

1.20.3. An oral evaluation and written examination on observer responsibilities and appropriate RSU directives.

1.20.4. Randolph will specify observer training and documentation in local directives. Additionally, they will maintain training folders for all permanent party RSU personnel.

1.20.5. RSUTOs document training on 19 AF Form 309 and maintain it in the training folders of each observer. Give the folders to the observer upon removal from observer duties or change of station.

1.21. Currency Requirements:

1.21.1. All controllers will perform controller duty (a scheduled tour for a minimum of 1 hour) at least once each 30 calendar days (45 calendar days for Randolph) on a runway that permits a VFR pattern. A controller performing instructor duties may log a tour to meet this requirement.

1.21.1.1. If 30 days (45 days for Randolph) pass without performance of controller duties, the controller will undergo refresher training to include a review of applicable RSU publications and a 1-hour OJT tour under the supervision of a current instructor controller. Document loss of currency and recurrency in individual training records.

1.21.1.2. If 45 days (60 days for Randolph) pass without performance of controller duties, the controller will undergo refresher training (as described in paragraph 1.21.1.1) as a minimum and successfully completes a requalification performance evaluation consisting of an oral and written examination and an operational RSU check. The annual evaluation zone is based on this new qualification date. Place a comment on 19 AF Form 309 with the reason for requalification.

1.21.1.3. If more than 90 days pass without performance of controller duties, the controller completes requalification training (as defined in paragraph 1.18.1.2). The annual evaluation is based on this new requalification date.

1.21.2. Monitors will perform RSU duty at least once each 60 calendar days. A monitor performing instructor duties may log a tour to meet this requirement. Monitors may hold dual qualification as an observer; however, monitor duty does not count toward observer currency.

1.21.2.1. If 60 days pass without performance of monitor duties, the monitor must undergo refresher training to include a review of applicable RSU publications and a 1-hour OJT tour under the supervision of a current controller or instructor monitor. If the tour is accomplished under the supervision of a controller, the controller will not be engaged in controlling traffic.

1.21.2.2. If more than 90 days pass without performance of monitor duties, the monitor will complete refresher training (as described in paragraph 1.21.2.1), an oral evaluation, and a written examination.

1.21.3. Observers perform RSU duty at least once each 45 calendar days. An observer performing instructor duties may log a tour to meet this requirement.

1.21.3.1. If 45 days pass without performance of observer duties, the observer must undergo refresher training to include a review of applicable RSU publications and a 1-hour OJT tour under the supervision of a current controller or instructor observer. If the tour is accomplished under the supervision of a controller, the controller will not be engaged in controlling traffic.

1.21.3.2. If more than 90 days pass without performance of observer duties, the observer completes refresher training (see paragraph 1.21.3.1), an oral evaluation, and a written examination.

1.21.4. RSUTOs maintain 19 AF Forms 355 to show dates and runways on which each controller, monitor, and observer performs duty. Note if a controller's duty period is in a control or monitor capacity. Retain these records for a minimum of 1 year according to AFMAN 37-139.

1.22. Concurrent T-6 and T-37 Operations:

1.22.1. T-6 and T-37 aircraft may operate in the same RSU pattern concurrently. Ensure reduced same runway separation criteria outlined in attachment 5 are followed.

1.22.2. For a T-6 or T-37 to operate in the RSU pattern, the controller or observer must be current and qualified in that aircraft type (for example, if both aircraft are present and the controller is T-6 qualified, then the observer must be T-37 qualified. If there are only T-37s in the pattern, either the controller or observer must be current and qualified in the T-37).

1.22.2.1. If the controller is current and qualified in the T-37, but will be controlling T-6s, the controller must have completed a T-6 familiarization training program, as developed by the RSUTSO. This training program will include, as a minimum:

1.22.2.1.1. A review of T-6 aircraft operations and capabilities.

1.22.2.1.2. A review of T-6 emergency landing pattern (ELP) procedures, to include discussion on how to integrate ELP training into pattern operations; relationship of aircraft flying ELPs to those on straight-ins, initial, or requesting closed; and acceptable configurations/glide paths on final.

1.22.2.1.3. A review of T-6 configurations, pattern types, and spacing standards.

1.22.2.1.4. A 1-hour OJT tour controlling T-6 aircraft under the supervision of a T-6 qualified instructor controller, including aircraft flying ELPs.

1.22.2.2. If the controller is current and qualified in the T-6, but will be controlling T-37s, the controller must have completed a T-37 familiarization program, as developed by the RSUTSO. This training program will include, as a minimum:

1.22.2.2.1. A review of T-37 aircraft operations and capabilities.

1.22.2.2.2. A review of T-37 configurations, pattern types, and spacing standards.

1.22.3. Observers must review aircraft configurations, pattern types and spacing standards for the aircraft in which the observer is not qualified.

1.22.4. There are no additional restrictions for the recorder.

1.22.5. The spotter may be from either aircraft type, but must receive a briefing on proper configuration checks for whichever aircraft will be operating in the pattern during the tour.

Chapter 2

RSU-CONTROLLED RUNWAY OPERATIONS

2.1. Aircraft Control:

2.1.1. RSUs control aircraft according to procedures in this directive.

2.1.2. Local aircraft under tower control and transient aircraft are controlled according to applicable Air Force and FAA air traffic control publications. Be aware that wind gust reporting procedures and reduced same runway separation rules are two areas in which tower operations differ considerably from RSU procedures.

2.2. Procedures at Undergraduate Flying Training (UFT) Bases:

2.2.1. Each base will establish procedures to provide positive separation between RSU-controlled traffic and transient aircraft under tower or approach control.

2.2.2. Air traffic facilities will coordinate radar approaches to RSU-controlled runways as follows: *NOTE:* The request-and-acknowledge system at Sheppard satisfies the communications requirement of this paragraph.

2.2.2.1. Approaches under tower and radar control are not integrated with RSU-controlled traffic unless direct communications are established between the RSU, tower, and radar facility.

2.2.2.2. To ensure proper sequencing of arriving radar traffic with RSU-controlled traffic, radar and RSU controllers coordinate as follows:

2.2.2.2.1. At a specified position, the radar controller establishes initial contact with the RSU and provides identification, position, and type approach of the aircraft under radar control. Then the RSU is told when the aircraft is 9 miles from touchdown (5 miles for T-6s and T-37s). The RSU is also told when the aircraft is 4 miles from touchdown (2 miles for T-6s and T-37s).

2.2.2.2.2. The RSU acknowledges each position report and issues appropriate traffic advisories and field information. In no case is a radar approach continued closer than 3 miles from touchdown unless coordinated with the RSU controller.

2.2.2.2.3. During T-38 night straight-in approaches, only one coordination call from tower or radar to RSU is required. This call is made no closer than 5 miles from touchdown and includes the frequency assigned to the aircraft nearest touchdown.

2.2.3. Straight-in aircraft will report 9 and 4 miles from touchdown (5 and 2 miles for T-6s and T-37s). RSU controllers will clear aircraft requesting a straight-in not later than when the aircraft is 9 miles from touchdown (5 miles for T-6s and T-37s). Establish local procedures if straight-in clearance is canceled.

2.2.4. RSU controllers must evaluate each minimum fuel situation in light of existing conditions and determine the extent to which aircraft are given special handling. When a pilot declares minimum fuel, other approaches and landings may continue; however, minimum fuel aircraft must be given landing

priority if a traffic conflict exists or is anticipated. RSU controllers acknowledge the initial minimum fuel call.

2.2.5. Immediate action must be taken to provide emergency aircraft with landing priority. If such action includes cancellation of another aircraft's landing clearance, the RSU controller will inform the affected pilot as soon as possible. When an aircraft is disabled on or near a runway, discontinue normal traffic pattern operations. If an emergency arises after operations have been suspended and an alternate course of action is not prescribed, the RSU controller relays field conditions to the pilot. Subsequent control decisions are based on the pilot's decision. Chiefs of airfield management or their representatives are responsible for authorizing resumption of normal runway operations.

2.2.6. Formations are controlled as a unit; however, after formation aircraft have split up, the guidance for aircraft separation in paragraph 2.2.8 applies.

2.2.7. RSU takeoff clearance is as follows:

2.2.7.1. Not more than four aircraft are permitted on the runway in takeoff position at the same time. At night, not more than one aircraft or one element of two aircraft is permitted on the runway at one time.

2.2.7.2. RSU controllers may authorize aircraft to taxi into position and hold when takeoff clearance cannot be issued because of other traffic.

2.2.7.3. RSU controllers may authorize aircraft to taxi into takeoff position and hold when low approach traffic is on final. Do not clear aircraft for takeoff until proper separation is ensured with low approach aircraft.

2.2.8. Departure and arrival separation is as specified in Attachment 5.

2.2.9. Procedures for anticipating separation are as follows:

2.2.9.1. Takeoff or landing clearance need not be withheld until prescribed separation exists if there is reasonable assurance it will exist when the aircraft starts takeoff roll or crosses the landing threshold. Landing clearance may be issued to a radar-controlled aircraft when it is 3 miles from touchdown even though a preceding aircraft has not crossed the landing threshold, provided there is reasonable assurance that prescribed separation will exist when the radar-controlled aircraft crosses the threshold.

2.2.9.2. The RSU controller may not issue clearances that require a provisional or conditional phrase. Specific guidance, such as "abort" or "go-around," should be used. (See Attachment 3 for standard phraseology.)

2.2.10. Instrument and straight-in approaches are not permitted to proceed inside 4 miles (2 miles for T-6s and T-37s) from the time a four-ship formation pitches until number four has initiated the turn to final.

2.2.11. Closed traffic procedures are as follows:

2.2.11.1. Do not clear aircraft for closed traffic unless clearance can be granted without undue delay.

2.2.11.2. Use caution when clearing closed traffic with two aircraft on departure leg. If there is any doubt as to which aircraft has requested a closed, the controller will not issue a clearance until the question is resolved.

2.2.12. When the aircrew reports or the controller directs a low approach, the aircraft will not touch down. During local flying operations when the aircrew is directed to make a RESTRICTED low approach, the aircraft will descend no lower than 500 feet AGL or higher, as specified by the RSU controller. Aircraft making a low approach or restricted low approach with an aircraft in takeoff position must clear the runway.

2.2.13. The RSU controller's silence to the pilot's "gear down" call is implied clearance to land, which may be modified by oral communications.

2.2.14. RSU controllers should refrain from soliciting early turnoffs or instructing aircrews to clear the runway faster than normal.

2.2.15. RSU controllers may request T-6 and T-37 aircrews to turn off strobe lights during hours of darkness while in the home base traffic pattern.

2.3. Diversion Airfields for Solo and Team Sorties. When a runway closure prevents recovering solo or team sorties at the home field, another suitable airfield is designated as a diversion. The following applies:

2.3.1. A letter of agreement (LOA) will be negotiated with the host diversion base authorizing an IP access to the control tower to assist in recovering solo and team aircraft.

2.3.2. The IP acts as a safety monitor by observing traffic patterns, landings, and configurations. Assigned personnel relay instructions to aircraft through the tower controller. Personnel assigned this duty must not interfere with control tower operations or procedures (AFI 13-203).

Chapter 3

LOCAL AREA PROCEDURES

3.1. Terminal Instrument Procedures (TERPS). The airfield operations flight commander provides TERPS service according to AFJMAN 11-226, *US Standard for Terminal Instrument Procedures (TERPS),* and AFMAN 11-230, *Instrument Procedures,* for any procedure designed for instrument approach or departure of aircraft; that is, nonprecision and precision approaches and standard instrument departures.

3.2. Aircraft Traffic Patterns:

3.2.1. Attachment 6 of this publication establishes home and auxiliary field traffic patterns for the T-1, T-6, T-37, and T-38 aircraft. In addition, the following rules apply to the T-1, T-6, T-37, and T-38 aircraft:

3.2.1.1. Aircraft departing under RSU control must remain in visual meteorological conditions (VMC) until the departure control facility establishes radio and radar contact with the aircraft. Military assumes responsibility for separation of aircraft (MARSA) will apply until standard instrument flight rules (IFR) separation is established. Each base will also designate points at which aircraft normally terminate IFR service on arrival.

3.2.1.2. Aircraft of like type in the terminal area (not under radar or tower control) must maintain a specified airspeed on designated ground tracks and adhere to established altitudes.

3.2.1.3. The number of aircraft in the VFR traffic pattern is limited to 12 T-6s/T-37s, 12 T-38s, or 10 T-1s. Night VFR traffic pattern is limited to 8 for each aircraft.

3.2.1.4. UFT aircraft may remain in formation in the traffic pattern unless the RSU controller or tower direct otherwise.

3.2.1.5. A common initial with opposite direction breaks for single runway operations will not be established. (Auxiliary fields are exempt.)

3.2.1.6. When weather prevents use of established pattern breakout procedures, a restricted pattern may be flown if the following requirements are satisfied:

3.2.1.6.1. Existing ceiling is at least 500 feet above pattern altitude.

3.2.1.6.2. Pattern entries are only made from initial takeoff via a crosswind entry from a parallel runway or from a straight-in approach (if procedures are established that prevent a traffic conflict).

3.2.1.6.3. Aircraft in the pattern is limited to eight.

3.2.1.6.4. Solo student sorties are prohibited.

3.2.1.7. Night overhead and visual straight-in approaches will not be flown simultaneously to the same runway. (Randolph is exempt.)

3.3. Local Flying Areas and Aircraft Separation. Flying activities will:

3.3.1. Establish sufficient local flying areas to meet mission requirements. Locate high areas over low areas when possible. Training areas below class A airspace must be contained in military operations areas (MOA) or restricted areas.

3.3.2. Define training areas by arcs and radials to the extent practicable. (Latitudes and longitudes may be used if the aircraft is properly equipped.). Ground references may also be identified to assist aircrews in area orientation responsibilities.

3.3.3. Ensure only one UFT or PIT aircraft, or flight operates in a training area at one time. *EXCEPTION:* Air Combat Training flown according to AFI 11-214, *Aircrew and Weapons Director Procedures for Air Operations.*

3.3.4. Establish altimeter setting procedures for use in local training areas.

3.3.5. Establish procedures to ensure continuity of area assignment in the event the normal area control agency is unable to perform this function.

3.3.6. Ensure arrival and departure routes in a nonradar environment are procedurally separated from area boundaries.

3.3.7. Establish procedures to notify applicable air traffic control (ATC) facilities when MOAs and restricted areas will (or will not) be required. If use is not anticipated for the remainder of the day, notify applicable facilities so airspace can be made available to other users.

3.3.8. Normally require transient fixed wing aircraft to arrive and depart according to IFR unless prior approval is received for a VFR flight plan. Publish this guidance in applicable flight information publication (FLIP) documents along with additional information deemed appropriate for the local areas.

3.4. Forms Prescribed. 19 AF Forms 309, 355, 360, 361, 393, and 1163.

3.5. Forms Adopted. AFTO Form 95 and AETC Form 803A.

                                    STEVEN R. POLK, Major General, USAF
                                    Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFKAI-1, *USAF Voice Call Sign List*
AFKAO-1G, *USAF Voice Call Sign Instruction*
FAA Handbook 7400.2, *Procedures for Handling Airspace Matters*
FAA Handbook 7610.4, *Special Military Operations*
AFI 10-414, *Requesting and Employing Combat Communication Resources in Peacetime*
AFPD 11-2, *Aircraft Rules and Procedures*
AFI 11-202, Volume 3, *General Flight Rules,* and its AETC supplement
AFI 11-209, *Air Force Participation in Aerial Events,* and its AETC supplement
AFI 11-214, *Aircrew, Weapons Director, and Terminal Attack Controller Procedures for Air Operations*
AFMAN 11-225, *United States Standard Flight Inspection Manual*
AFJMAN 11-226, *US Standard for Terminal Instrument Procedures (TERPS)*
AFMAN 11-230, *Instrument Procedures*
AFI 11-401, *Flight Management*
AFPD 13-2, *Air Traffic Control, Airspace, Airfield, and Range Management*
AFI 13-201, *Air Force Airspace Management,* and its AETC supplement
AFI 13-203, *Air Traffic Control,* and its AETC supplement
AFI 13-213, *Airfield Management,* and its AETC supplement
AFI 31-101, *The Air Force Physical Security Program*
AFI 32-1063, *Electric Power Systems*
AFMAN 32-1123(I), *Airfield and Heliport Planning and Design*
AFI 32-7061, *The Environmental Impact Analysis Process*
AFI 33-103, *Requirements Development and Processing,* and its AETC supplement
AFI 33-111, *Telephone Systems Management*
AFI 33-118, *Radio Frequency Spectrum Management,* and its AETC supplement
AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, volume 4)
AFMAN 91-201, *Explosives Safety Standards,* and its AETC supplement

Abbreviations and Acronyms

AGL—above ground level
AOF—Airfield Operations Flight
APU—auxiliary power unit
ASEV—aircrew standardization/evaluation visit
ASR—airport surveillance radar
ATC—air traffic control
CAP—commander's awareness program
DNIF—duty not including flying
FAA—Federal Aviation Administration
FCIF—flight crew information file
FLIP—flight information publication
GCA—ground control approach

IFR—instrument flight rules
IP—instructor pilot
LOA—letter of agreement
MARSA—military assumes responsibility for separation of aircraft
MOA—military operations area
NAVAID—navigational aid
OJT—on-the-job training
OGV—operations group standardization/evaluation
PIT—pilot instructor training
QAE—quality assurance evaluator
RCS—runway control structure
RSRS—reduced same runway separation
RSU—runway supervisory unit
RSUTO—RSU training officer
RSUTSO—RSU training and standardization officer
SOF—supervisor of flying
TERPS—terminal instrument procedures
UFT—undergraduate flying training
VFR—visual flight rules
VMC—visual meteorological conditions

Attachment 2

RSU INSPECTION CHECKLIST

A2.1. Daily and Monthly Checks. The wing RSU facility officer should check the following items monthly at each RSU. Additionally, the RSU daily opening checklist should incorporate a check of the asterisked items below as a minimum.

A2.1.1. Exterior. Perform a visual check of the following operations and/or condition:

A2.1.1.1. Power hookup, external wiring, proper ground.

A2.1.1.2. Guys and mounts in place (mobile units).

A2.1.1.3. Wind-measuring equipment.*

A2.1.1.4. Communications antennas.*

A2.1.1.5. Obstruction lights.*

A2.1.1.6. Flare warning signs.*

A2.1.1.7. Relief facility (first floor in permanent RSUs).

A2.1.1.8. Unit exterior (including floor support in mobile units).

A2.1.1.9. Auxiliary power unit operation/power transfer (if applicable).

A2.1.2. Air-conditioner or Heater:

A2.1.2.1. Proper operation.*

A2.1.2.2. Filters.

A2.1.2.3. Duct condition.

A2.1.3. Radio Equipment:

A2.1.3.1. Equipment bay (visual check):

A2.1.3.1.1. Equipment secure in racks.

A2.1.3.1.2. Adequate cooling.

A2.1.3.1.3. Evidence of water leakage.

A2.1.3.1.4. Condition of wiring.

A2.1.3.2. Console:

A2.1.3.2.1. All equipment operational.*

A2.1.3.2.2. Switches properly labeled.*

A2.1.3.2.3. Microphones and headsets - correct number and condition.*

A2.1.4. Unit Interior:

A2.1.4.1. General condition and cleanliness.*

A2.1.4.2. Windows (clean and no faults).*

A2.1.4.3. Window shade operation and condition.

A2.1.4.4. Evidence of water leakage.

A2.1.4.5. Proper flare storage.

A2.1.4.6. Telephone and hotline operation.*

A2.1.4.7. Wind equipment operational.*

A2.1.4.8. Equipment inventory and condition:

A2.1.4.8.1. Flares.*

A2.1.4.8.2. Publications and forms.*

A2.1.4.8.3. Light gun.*

A2.1.4.8.4. Binoculars (if maintained in RSU).*

A2.1.4.9. Fire extinguishers.*

A2.1.4.10. Chairs.

A2.2. Recording Discrepancies. Record discrepancies on the unit 19 AF Form 360 and report to the agency responsible for corrective action and/or RSU facility officer as specified locally. The wing RSU facility officer records open discrepancies on 19 AF Form 361.

Attachment 3

STANDARD RSU RADIO PHRASEOLOGY

A3.1. Standard RSU Radio Phraseology. Tables A3.1 through A3.4 contain standard RSU radio phraseology. This phraseology is not intended to cover every situation or restrict use of additional terms. However, additional required calls should be kept to a minimum. It is important to use timely, clear, concise, standard phraseology that communicates the same meaning to all AETC aircrew members.

A3.2. Issuing Instructions. When issuing instructions, RSU controllers normally refer to the aircraft's position rather than its call sign. Identify the source of transmission when using guard channel, for example, "Final, go-around, Westwind on guard."

A3.3. Terms Not Used. RSU controllers or observers to identify pattern position do not normally use terms such as "number one" or "number two." Pilots to whom instructions are issued may not know their relative position.

A3.4. Identifying Aircraft in Formation. Identify by call sign aircraft in formation when necessary to prevent confusion between pattern position and formation position.

Table A3.1. Terms to Identify Aircraft Positions.

ITEM	A Position	B Phraseology
1	On the taxiway or runup area before being cleared on or across the active.	Holding for the active... (May be prefaced with relative position; for example, No. 1, 2, or 3.)
2	On the taxiway or taxiing onto the runway after being cleared on.	Taking the active...(May be prefaced with relative position; for example, No. 1, 2, or 3.)
3	In departure position before brake release.	Departure position...
4	On runway after brake release for departure.	Departure roll... (Formation members must be directed by their position in formation; for example, "Vega 31-2 abort.")
5	Airborne after departure, but not yet started to turn out of traffic.	Departure leg...
6	On crosswind after completing turn from takeoff leg.	Crosswind...
7	In pullup to closed downwind.	Pulling closed...
8	On downwind after closed pattern pullup.	Closed downwind...
9	On downwind after passing normal rollout point or completing the turn from entry leg or crosswind.	Downwind... (May specify inside or outside downwind as required.)
10	Initiating final turn.	Starting final turn...
11	After established in final turn.	Final turn...
12	After initiating rollout to final approach.	Rolling out on final... (Take into account overshooting final turns also.)

ITEM	A	B
	Position	**Phraseology**
13	After wings level on final approach	Final...
14	Approaching overrun.	Short final...
15	Over the overrun on final approach.	Overrun...
16	After starting roundout/flare for landing.	Flare...
17	Aircraft on go-around from final turn.	On the go from final turn... (Normally used to inform pilot of other traffic or aircraft configuration.)
18	Aircraft on go-around from final approach.	On the go from final approach... (Normally used to inform pilot of other traffic or aircraft configuration.)
19	Aircraft on go-around displaced from the runway inside the pattern.	Offset...
20	Aircraft turning initial, but not yet wings level.	Turning initial...
21	On initial, but not yet rolling into the break.	Initial...
22	Initiating bank for break until wings level on downwind.	In the break...

Table A3.2. Terms Unique to Rectangular Patterns.

ITEM	A	B
	Position	**Phraseology**
1	Initiating turn to base.	Starting base turn...
2	After established in base turn.	Base turn...
3	After initiating rollout on base.	Rolling out on base...
4	After wings level on base.	Base...
5	Aircraft on go-around from base.	Aircraft on the go from base... (Normally used to inform pilot of other traffic.)

NOTE: This table supplements the terms listed in Table A3.1.

Table A3.3. Standard RSU Controller to Pilot Instructors.

ITEM	A	B
	Instruction	**Meaning**
1	Go-around	Discontinue approach or landing; initiate procedures to remain or become airborne.

I T E M	A	B
	Instruction	**Meaning**
2	Breakout	Leave traffic pattern as specified in local pattern directives.
3	Abort	Discontinue takeoff (if appropriate).

Table A3.4. Other Controller and Pilot Phraseology.

I T E M	A	B
	Tower/RSU Instruction	**Pilot Response**
	Before Takeoff	
1	"Hold short"	"CALL SIGN, holding short"
2	"Taxi into position and hold"	"CALL SIGN, on to hold"
3	"Cleared for takeoff"	"CALL SIGN"
	Traffic Pattern	
	Pilot Call	**RSU Response**
4	"CALL SIGN, request closed" ("right/left" as appropriate at auxiliary field)	"Closed approved" or "negative closed" ("right/left" as appropriate at auxiliary field)
5	"CALL SIGN, gear down"	(Normally no response)
6	"CALL SIGN, descending outside downwind"	(Normally no response)
7	"CALL SIGN, (position) breaking out	(Normally no response)
8	"CALL SIGN, initial" (include fuel remaining if planning a full stop landing)	(Normally no response unless initial pattern entry)
9	"CALL SIGN, initial, request right/left break" (auxiliary field)	"Right/left break approved" (auxiliary field)

Page Break

Attachment 4

RSU CONTROLLER UPGRADE SYLLABUS

A4.1. Training Requirements. Following is the minimum requirements to be included in the local syllabus of instruction to upgrade RSU controller candidates. Additional training or procedures peculiar to the local area should be added as necessary.

A4.1.1. Trainees complete a minimum of nine daylight OJT tours and one night tour (minimum of 2 hours each). (Randolph is exempt from night requirements.) Proficiency advancement is authorized at the discretion of the OG/CC.

A4.1.2. The night tour is not to be accomplished before completing four daylight tours.

A4.1.3. Day tours must be completed during periods when status of flying permits aircraft recovery from the overhead pattern. The trainee is limited to one upgrade tour per day, but is scheduled with sufficient frequency to ensure continuity of training.

A4.1.4. The trainee receives OJT by actually controlling traffic while under direct supervision of an upgrade controller who retains responsibility for a safe traffic pattern and takes control of the pattern if the trainee does not adequately respond to the situation. The training program should also include provisions to ensure familiarity with responsibilities when performing the monitor function.

A4.1.5. Documentation showing the trainee's progress is maintained to ensure completion of all syllabus requirements before evaluation.

A4.1.6. Controllers transferred intracommand should receive sufficient training to ensure familiarity with local operations.

A4.1.7. Additional manning in the RSU during OJT tours cannot be used to substitute for normal manning requirements.

A4.2. Orientation. The trainee:

A4.2.1. Receives a briefing from the RSUTSO or RSUTO on the controller training program and the RSU role in a student training environment.

A4.2.2. Studies appropriate directives concerning RSU operations.

A4.2.3. Is encouraged to visit the tower and terminal radar facility to observe terminal activities and the interface with RSU operations.

A4.3. OJT Tours 1 and 2 (4 Hours Minimum). The trainee:

A4.3.1. Is briefed on and observes the following (trainee may practice these items on Tour 2):

A4.3.1.1. Crew briefing.

A4.3.1.2. RSU and APU preflight checks.

A4.3.1.3. Crew changeover procedures.

A4.3.2. Practices controlling VFR traffic.

A4.4. OJT Tours 3 Through 9 (14 Hours Minimum). The trainee:

A4.4.1. Practices subjects previously introduced to include procedures for beginning and terminating RSU operations.

A4.4.2. Practices controlling VFR traffic.

A4.4.3. Is briefed on or practices, and must have a thorough understanding of the following:

A4.4.3.1. Supervision, coordination, and discipline of the RSU crew.

A4.4.3.2. Assuming and relinquishing runway control.

A4.4.3.3. Coordination with other air traffic control agencies and the SOF.

A4.4.3.4. Local techniques and guidance to safely facilitate normal traffic flow while maintaining specified separation standards and sequencing.

A4.4.3.5. Traffic pattern priorities and breakouts.

A4.4.3.6. Transient and civilian aircraft procedures.

A4.4.3.7. Runway change procedures.

A4.4.3.8. Reporting RSU discrepancies.

A4.4.3.9. Control of ground aborts.

A4.4.3.10. Control of emergency aircraft, including aircraft chase procedures.

A4.4.3.11. Overdue aircraft.

A4.4.3.12. Lost student assistance.

A4.4.3.13. Single and dual runway operations.

A4.4.3.14. Situations that could result in a potential stall (tight downwinds, slow finals, etc.) and controller actions to prevent or correct the situation.

A4.4.3.15. Specific guidance on when to issue go-around instructions.

A4.4.3.16. Flying status changes.

A4.4.3.17. Weather recall and diversion procedures.

A4.4.3.18. Local contingency plans (Broken Arrow, SCATANA, etc.).

A4.4.3.19. RSU radio and power failure.

A4.4.3.20. RSU administrative duties.

A4.4.3.21. Radio terminology.

A4.4.3.22. Local potential traffic conflicts (final turn versus straight-in, etc.).

A4.4.3.23. Monitoring and responsibility for solo traffic.

A4.4.3.24. Recovery of radio out aircraft.

A4.4.3.25. Handling and storage of flare pistols and flares.

A4.4.3.26. Use of 19 AF Form 355.

A4.5. OJT Tour 10 (2 Hours Minimum at Night). This lesson may be accomplished any time during scheduled night flying after completing four OJT tours and before assuming unsupervised controller duties at night. Completion of this tour is desired, but is not a prerequisite for the controller's initial evaluation.

A4.5.1. The trainee is briefed on the following procedures as they differ from daytime procedures:

A4.5.1.1. Traffic patterns.

A4.5.1.2. Common pilot errors.

A4.5.1.3. Separation standards.

A4.5.1.4. Emergency procedures.

A4.5.1.5. RSU lighting.

A4.5.1.6. RSU duties and responsibilities.

A4.5.2. The trainee practices controlling and monitoring night traffic, as applicable.

A4.6. OJT Tour 11 (2 Hours Minimum at Auxiliary Field). This lesson needs to be accomplished only if aircraft flown by the trainee uses an auxiliary field. The tour may be accomplished any time after trainee completes four OJT tours and is a prerequisite to assuming unsupervised controller duties at the auxiliary. Completion of this tour is desired, but not a prerequisite for the controller's initial evaluation.

A4.6.1. The trainee is briefed on procedures at the auxiliary as they differ from those at the home field.

A4.6.2. The trainee practices controlling traffic at auxiliary field.

Attachment 5

REDUCED SAME RUNWAY SEPARATION (RSRS) FOR TRAINER-TYPE AIRCRAFT OPERATIONS

A5.1. Similar Trainer-Type Aircraft Operations:

A5.1.1. Similar trainer-type RSRS may only be applied using alternate runway side procedures. Similar trainer-type aircraft are defined as aircraft with the same airframe, for example, T-38 to T-38/AT-38, T-1A to T-1A, T-37 to T-37, T-6 to T-6 (T-6 and T-37 aircraft are not considered similar).

A5.1.2. When using runway side procedures, RSRS for T-6, T-37 and T-38 patterns is 3,000 feet or the preceding aircraft is airborne. When alternate runway side procedures are not used, the minimum RSRS is 6,000 feet.

A5.1.3. Use of alternate runway side procedures is an aircrew responsibility and must be addressed in local operating procedures.

A5.1.4. T-1A aircraft do not use alternate runway side procedures. T-1A following T-1A: 6,000 feet or airborne.

A5.1.5. RSRS is not authorized for T-43 aircraft.

A5.1.6. 3,000 feet RSRS may be applied between a landing formation and a subsequent single aircraft (similar type) arrival or departure providing both formation aircraft are positioned on the cold (exit) side of the runway. Ensure 6,000 feet RSRS when the subsequent aircraft is a formation flight.

A5.2. Dissimilar Trainer-Type Operations:

A5.2.1. RSRS for a T-37 following a T-6 is 3,000 feet or the preceding aircraft is airborne. For a T-6 following a T-37, RSRS is 6,000 feet.

A5.2.2. In all other cases, dissimilar trainer-type aircraft separation is 6,000 feet.

A5.3. Night Operations. During night operations, 6,000 feet is the minimum separation for all aircraft types.

Attachment 6

TRAFFIC PATTERNS

A6.1. T-6, T-37 and T-38 Aircraft:

A6.1.1. T-6/T-37 traffic pattern altitude is normally 1,000 feet AGL. T-38 traffic pattern altitude is normally 1,500 feet AGL.

A6.1.2. Establish an initial approach of 3 to 5 nautical miles, measured from the pitch point. Radar-controlled aircraft may enter initial from either side provided the entry point is located outside of VFR traffic.

A6.1.3. Establish a VFR entry and reentry leg that is entered from a turn from one side only. Aircraft entering on the VFR entry leg must be wings level on the entry leg at least 1 nautical mile prior to entering the pattern or converging with other aircraft and must give way to aircraft established in pattern.

A6.1.4. A common entry leg may be used for both VFR and radar sequence entries provided right-of-way priorities are established where aircraft converge and provisions are made for aircraft forced to give way. Aircraft must be wings level at least 1 nautical mile prior to converging points and must converge at a 45-degree angle in level flight to facilitate clearing.

A6.1.5. Establish pattern right-of-way priorities and breakout procedures for aircraft that converge onto a common ground track.

A6.1.5.1. Aircraft on 90- or 45-to-initial giving way to aircraft on initial, climb a minimum of 500 feet and reenter in the VFR entry area, request radar initial, or fly straight through on an offset initial, obtaining spacing and letting down to traffic pattern altitude during the turn to outside downwind.

A6.1.5.2. Aircraft giving way on VFR entry leg climb a minimum of 500 feet and reenter in the VFR entry area.

A6.1.5.3. Aircraft breaking out from inside or outside downwind climb a minimum of 500 feet and reenter in the VFR entry area or request radar initial.

A6.1.5.4. Aircraft breaking out from low closed downwind maintain 500 feet below pattern altitude and reenter in the VFR entry area or request radar initial.

A6.1.5.5. Aircraft breaking out of the traffic pattern will advise the controlling agency by position.

A6.1.6. Pattern spacing is normally obtained by adjusting position of the crosswind leg.

A6.1.7. Radar service may be terminated prior to actual pattern entry provided the approach control facility establishes aircraft separation and sequencing prior to termination point, and a prescribed ground track and airspeed are flown from termination point to the pattern.

A6.1.8. Weather minimums must ensure that VFR conditions, including required cloud clearance and visibility, can be maintained during all portions of the pattern.

A6.1.9. Procedures may be developed to permit pitchouts and closed patterns opposite the normal direction of break at auxiliary fields. Go-around and breakout and reentry procedures must be established to prevent conflicts.

A6.1.10. Establish runway change procedures that ensure an orderly transition to the new pattern.

A6.2. T-1 Aircraft:

A6.2.1. T-1 traffic pattern and outside downwind altitude is normally 1,500 feet AGL, while closed pattern altitude is normally 1,000 feet AGL.

A6.2.2. Establish an initial approach of 3 to 5 nautical miles measured from the pitch point. Radar-controlled aircraft may enter initial from either side provided the entry point is located outside of VFR traffic.

A6.2.3. Establish a VFR entry and reentry leg that is entered from a turn from one side only. Aircraft entering on the VFR entry leg must be wings level on the entry leg at least 1 nautical mile prior to entering the pattern or converging with other aircraft and must give way to aircraft established in pattern.

A6.2.4. A common entry leg may be used for both VFR and radar sequence entries provided right-of-way priorities are established where aircraft converge and provisions are made for aircraft forced to give way. Aircraft must be wings level at least 1 nautical mile prior to converging points and must converge at a 45-degree angle in level flight to facilitate clearing.

A6.2.5. Establish pattern right-of-way priorities and breakout procedures for aircraft that converge onto a common ground track.

A6.2.5.1. Aircraft in the overhead giving way to aircraft on final approach climb 500 feet and reenter in the VFR entry area.

A6.2.5.2. Aircraft in the closed pattern giving way to aircraft on final approach maintain pattern altitude and reenter in the VFR entry area.

A6.2.5.3. Aircraft giving way on VFR entry leg climb 500 feet and reenter in the VFR entry area.

A6.2.5.4. An aircraft on a straight-in approach that perceives a conflict with an aircraft turning final will discontinue the approach and offset the ground track away from the final turn.

A6.2.6. Pattern spacing is normally obtained by adjusting position of the crosswind leg.

A6.2.7. Radar service may be terminated prior to actual pattern entry provided the approach control facility establishes aircraft separation and sequencing prior to termination point and a prescribed ground track and airspeed are flown from termination point to the pattern.

A6.2.8. Weather minimums must ensure that VFR conditions, including required cloud clearance and visibility, can be maintained during all portions of the pattern.

A6.2.9. Establish runway change procedures that ensure an orderly transition to the new pattern.